

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (withdrawn): A method to calibrate a multi-channel fluorescent polynucleotide separation apparatus, comprising:

introducing a fluorescent polynucleotide separation standard into a channel of said apparatus, wherein the standard comprises at least two polynucleotides of different length, each of the polynucleotides being labeled with a spectrally distinct fluorescent dye,

separating the polynucleotides from each other,

collecting spectra information of the dye standards,

establishing pure dye spectra and multi-component values for the dyes;

generating spectra data files based on the established pure dye spectra and multi-component values, and

storing the spectra data files on a computer system adapted for communication with the apparatus for use in sample analysis.

2. (withdrawn): The method of claim 1, wherein the standard comprises at least four polynucleotides of different length, each of the polynucleotides being labeled with a spectrally distinct fluorescent dye.

3-7 (canceled)

8. (currently amended): A calibration standard for a fluorescent polynucleotide separation apparatus, the standard comprising: at least four polynucleotides [of] each having a different known length[,] and each polynucleotide being labeled with a different fluorescent dye having a distinctive spectral profile having a peak, wherein the lengths of the at least four polynucleotides differ from one another such that, upon electrophoretic separation, the peak of the spectral profile of any one of the dyes does not significantly overlap the peak of the spectral profile of any of the other dyes.

9. (currently amended): The calibration standard of claim 8, wherein the fluorescent labeled at least four polynucleotides in the standard are separated by at least 10 bases in length.

10. (withdrawn): A method of monitoring a separation channel of a fluorescent polynucleotide separation apparatus, said method comprising:

(i) introducing a fluorescently labeled polynucleotide composition to an inlet end of separation channel of a fluorescent polynucleotide separation apparatus, said composition comprising (a) a polynucleotide labeled with a first fluorescent dye, and (b) a monitoring dye that is spectrally distinct from the first fluorescent dye;

(ii) causing the composition to migrate down the channel; and

(iii) detecting for the monitoring dye at one or more regions downstream of said inlet end;

whereby detection of the monitoring dye at said one or more regions is indicative of flow along the channel.

11. (withdrawn): The method according to claim 10, wherein the composition comprises a plurality of polynucleotides labeled with at least two spectrally distinct fluorescent dyes, wherein the monitoring dye is spectrally distinct from each of the at least two spectrally distinct fluorescent dyes.

12. (withdrawn): The method of claim 11, wherein the polynucleotides labeled with at least two spectrally distinct fluorescent dyes is a polynucleotide sequencing reaction product mixture.

13. (withdrawn): The method of claim 12, wherein the monitoring dye is attached to a polynucleotide.

14-18(canceled)

19. (new): The calibration standard of claim 8, wherein the length of each of the at least four polynucleotides is in the range of from about 10 to about 1500 bases.

20. (new): The calibration standard of claim 8, wherein the length of each of the at least four polynucleotides is in the range of from about 10 to about 1000 bases.

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21. (new): The calibration standard of claim 8, wherein the length of each of the at least four polynucleotides is in the range of from about 20 to about 500 bases.